International Organization for Standardization **TC 184/SC4 N497**
Technical Committee 184
Subcommittee 4 **Source:** Secretariat
Industrial Data **Date: 1996-09-23**

ISO Standing Document Ballot Results for Guidelines for the development and approval of STEP application protocols, version 1.2

SC4 N433 was circulated among SC4 members for its SC4 Standing Document Ballot and closed on 26 July 1996. Thirteen of our nineteen P-members responded to the ballot:

COUNTRY	VOTE	WITH COMMENT
Australia	AGREE	
Belgium		
Brazil		
Canada		
China	AGREE	X
France	DISAGREE	X
Germany	AGREE	X
Hungary		
Italy	AGREE	
Japan	AGREE	
Korea, Republic of		
Netherlands	AGREE	
Norway	AGREE	
Romania	AGREE	
Russia		
Sweden	AGREE	
Switzerland	ABSTAIN	
United Kingdom	AGREE	
United States	DISAGREE	X

The Secretariat has reviewed the ballot responses, and in consultation with the Chair proposes that this document be approved as an SC4 standing document upon resolution and incorporation of the comments resulting from the ballot. Estimated publication date for this document is December 1996.

The comments received from this ballot can be found in digital form on SOLIS. To get a copy in ASCII format, send an email message to solis@cme.nist.gov and in the body of the message, include the command

send sc4/howto/methods/ap/bal_cmt/ap_guide/sc4n497.txt

Secretariat: **National Institute of Standards and Technology** **Phone: +1-301-975-3982**
Building 220, Room A127 **Fax: +1-301-258-9749**
Gaithersburg, MD 20899 USA **Email: trager@cme.nist.gov**

SC4 Standing Document Ballot Comments on SC4 N433

CHINA

All abbreviations have been explained in 2.2 already. It is not necessary to explain them in following text: for example, QC has explained in page 10, but in page 48, 50, and 52, this draft still uses "Quality Committee."

FRANCE

Synthesis of the comments on the document

We estimate that the present release of the Guildelines for the develoment and approval of STEP APs is not satisfactory, mainly because:
- it contains some ambiguities which may lead to misinterpretations on the way an AP has to be documented,
- some portions are not consistent with the current practices of AP developers and it is not clear whether it is intended to change these practices,

Our main issues on this document are issues #1, #5 and #9.

ISSUE NUMBER: FRA 1
AUTHOR: P. Huau
CLAUSE: -1.2.1-PAGE: 3
CLASSIFICATION: major, technical
DESCRIPTION:
The list of modeling languages is ambiguous:
- is it the list of the only allowed languages?
- why EXPRESS-G is not mentioned?
Regarding the first question, due to the fact that NIAM is formalism less and less used, that, to our knowledge, no AP uses it, we propose to remove it.

PROPOSED SOLUTION:
Modify or complete the text to state that the ARM shall be documented using EXPRESS-G or IDEF1X and possibly, and only in addition EXPRESS.

ISSUE NUMBER: FRA 2
AUTHOR: P. Huau
CLAUSE: -3.4-PAGE: 14
CLASSIFICATION: major, editorial
DESCRIPTION:
In the third paragraph, there is a reference to -planning model- , but this

term is not defined before.

PROPOSED SOLUTION:
Introduce the concept before its first reference.

ISSUE NUMBER: FRA 3
AUTHOR: P. Huau
CLAUSE: -3.7-PAGE: 17
CLASSIFICATION: major, editorial
DESCRIPTION:
The purpose of the annex E should be explained. In particular, it should be explained why it is needed whereas this information is not needed for data exchange conforming to ISO 10303-21.

PROPOSED SOLUTION:

ISSUE NUMBER: FRA 4
AUTHOR: P. Huau
CLAUSE: -4.2-PAGE: 31
CLASSIFICATION: major, editorial
DESCRIPTION:
The concept is referred to but it is not explained before if this model is really mandatory, what it has to contain and how it has to be documented.

PROPOSED SOLUTION:

ISSUE NUMBER: FRA 5
AUTHOR: P. Huau
CLAUSE: -4.3-PAGE: 33
CLASSIFICATION: major, editorial
DESCRIPTION:
The third paragraph of this page states that the AIC library is maintained by WG4.
Even if this is true, it is quite unsufficient. It should be made clear who has to develop AICs, when. In addition, it should be stated if, then, these AICs are validated (by QIE) and balloted.

PROPOSED SOLUTION:
Complete this Guidelines document with expliciting the points mentioned hereabove.

ISSUE NUMBER: FRA 6

AUTHOR: P. Huau
CLAUSE: -all relevant clauses-PAGE: all relevant pages

CLASSIFICATION: major, editorial
DESCRIPTION:
For all the statements that have been introduced in the STEP methodology due to a SC4 request or that have been approved by a SC4 resolution, a reference to the considered resolution should made in the document.

PROPOSED SOLUTION:

ISSUE NUMBER: FRA 7
AUTHOR: P. Huau
CLAUSE: -4.3.1.1-PAGE: 35
CLASSIFICATION: major, editorial
DESCRIPTION:
It should be mentioned that this clause regards ARMs documented either as EXPRESS-G diagrams or as EXPRESS schemas.

PROPOSED SOLUTION:

ISSUE NUMBER: FRA 8
AUTHOR: P. Huau
CLAUSE: -4.3.1.1-PAGE: 35
CLASSIFICATION: major, technical
DESCRIPTION:
If it is intended to allow the description of the ARM as an EXPRESS schema, it should be allowed to create incomplete EXPRESS schemas, with using the concept of a dummy_type, in order not to have to express all the details of the data model in the ARM.

Note: this proposal is made to ensure the same level of requirement for the ARM documentation between the various allowed formalisms.

PROPOSED SOLUTION:

ISSUE NUMBER: FRA 9
AUTHOR: P. Huau
CLAUSE: -4.3.1-PAGE: 34, 35
CLASSIFICATION: major, technical
DESCRIPTION:
At the end of the first paragraph of page 35, it is mentioned that clause 4.3 contains rules required for the integrity and validity of the application objects.

Does this clause include rules checking that attributes have an allowed value? My opinion is that it should include such rules. But, when considering the existing or on-going APs (AP203, AP214, AP227, ...), I only see rules checking the cardinality of the relationships. Therefore, the

statement in the AP Guidelines seems inconsistent with the current practice.

PROPOSED SOLUTION:
Make the clause 4.3 of APs consistent with the AP Guidelines, or, change the AP Guidelines statement to reflect the practice.

If the second choice is taken, then it shall absolutely be explained where the specifications of the rules ensuring the integrity and validity of the application have to go and how they shall be documented.

ISSUE NUMBER: FRA 10
AUTHOR: P. Huau
CLAUSE: -4.4.1-PAGE: 38
CLASSIFICATION: major, editorial
DESCRIPTION:
I quite agree with the request of the third paragraph, but I have never seen any corresponding report.

PROPOSED SOLUTION:
Therefore, release of this report has to be made mandatory, prior any ballot of the related AP, or, this request has to be removed.

ISSUE NUMBER: FRA 11
AUTHOR: P. Huau
CLAUSE: -5-PAGE: 55
CLASSIFICATION: major, editorial
DESCRIPTION:
the whole content of the chapter is redundant with ISO directives and SC4 Handdbook.

PROPOSED SOLUTION:
Therefore, its content should be replaced by references to the relevant directives document, and, only directives specific APs should be added in this clause.

GERMANY

ISSUE NUMBER: GER N433-1
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE:
CLASSIFICATION:
DESCRIPTION:
The references to current organizational structures of SC4 are not adequate, because each reorganization will cause inconsistencies.
PROPOSED SOLUTION:

The document should refer to functions within SC4 that will be assigned to organizational units in the organization handbook.

ISSUE NUMBER: GER N433-2
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE:
CLASSIFICATION:
DESCRIPTION:
The layout of the document should follow the supplementary directives (see for example clause headers, figure captures, headers, definition of terms etc.).
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-3
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE:
CLASSIFICATION:
DESCRIPTION:
There should be a preference for using EXPRESS/EXPRESS_G for the documentation of the ARM.
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-4
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 1.2, page 3
CLASSIFICATION:
DESCRIPTION:
Not only EXPRESS, but also EXPRESS_G should be mentioned as method for describing ARMS.
PROPOSED SOLUTION:
Both EXPRESS and EXPRESS_G shall be explicitely mentioned in those cases where both are intended for usage.

ISSUE NUMBER: GER N433-5
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 1.2, 2.1, 3.7
CLASSIFICATION:
DESCRIPTION:
Redundant definitions shall be avoided, e.g. AAM definition in clause 1.2.1 and 2.1 and 3.7.
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-6
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 1.3
CLASSIFICATION:

DESCRIPTION:
The principles of application protocol should be reworked with regard to the requirement of interoperable APs.
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-7
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 1.2.1, 4.3.1
CLASSIFICATION:
DESCRIPTION:
In our opinion the term ARM contains the textual descriptions (clause 4) and the formal descriptions (Annex G) of the information requirements. The definitions and usage of the term ARM should reflect this fact consistently. Inconsistencies can be determined for example in clauses 1.2.1 and 4.3.1.
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-8
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE:
CLASSIFICATION:
DESCRIPTION:
ATS documents should not be referred to as ISO10303 parts. They will be published as Technical Reports (e.g. page 5, 6, 12). Especially the requirement that ATS document should be referenced by the corresponding AP as normative refernce should be dropped (see clause 3, page 12).
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-9
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 1.3, page 5
CLASSIFICATION:
DESCRIPTION:
For ensuring harmonization of requirements as early as possible, the ARM harmonization should be recommended in clause 1.3, page 5 similar to the recommendation given in N437 (AIC guidelines) in clause 6.1.
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-10
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 2.1, page 6
CLASSIFICATION:
DESCRIPTION:
The sentence "The following definitions apply for this technical report" should be changed to "The following definitions apply for this document".
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-11
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 2.1, page 7
CLASSIFICATION:
DESCRIPTION:
The term implementation method is defined in ISO 10303-1, not in ISO 10303-11.
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-12
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 2.1, page 4
CLASSIFICATION:
DESCRIPTION:
The definition of AIC should be reworked. AICs is a logical grouping of IR constructs that is intended to be shared by two or more AIMs. Additionaly the definition should be consistent with the AIC definition in other document, e.g. see AIC guidelines (N437) clause 2, page 1.
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-13
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 2.1, page 7
CLASSIFICATION:
DESCRIPTION:
The term resource construct is defined in ISO 10303-1.
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-14
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 2.1
CLASSIFICATION:
DESCRIPTION:
The terms UoF and AIC seems to be related somehow, but the relationship is not defined.
PROPOSED SOLUTION:
Please define/clarify relationship.

ISSUE NUMBER: GER N433-15
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 2.1
CLASSIFICATION:
DESCRIPTION:
Some terms like "data modelling structure" in the definition for construct are not defined.
PROPOSED SOLUTION:
Define undefined terms or list referenced document.

ISSUE NUMBER: GER N433-16
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 3.2
CLASSIFICATION:
DESCRIPTION:
This clause 3.2 should only contain the sentence "All normative references shall be listed in clause 2 of an AP". The minimal list should be omitted, to avoid inconsistencies with the supplementary directives.
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-17
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE:
CLASSIFICATION:
DESCRIPTION:
EXPRESS should be used as defined in part ISO 10303-11 especially with respect to the EXPRESS construct USE FROM, REFERENCE, and ABSTRACT SUPERTYPE (drop USE FROM from clause 3.5, page 15).
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-18
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 3.5.1, page 15
CLASSIFICATION:
DESCRIPTION:
It should be stated that the required mapping supports the bidirectional mapping of instances between two different data models. Correspondence is not enough. Adequate methods are not available yet.
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-19
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE:3.7, page 16
CLASSIFICATION:
DESCRIPTION:
Short names currently contribute to non interoperability of APs.
PROPOSED SOLUTION:
The usage of short names needs to be harmonized across APs.

ISSUE NUMBER: GER N433-20
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE:3.7, page 16
CLASSIFICATION:
DESCRIPTION:

Currently there is only one overall AIM required for the complete AP. The implementations are based on CCs where no defined schema is available.
PROPOSED SOLUTION:
CC specific AIM schemas should be provided. (see also ISSUE NUMBER GER N432-1)

ISSUE NUMBER: GER N433-21
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE:3.7, page 16
CLASSIFICATION:
DESCRIPTION:
Implementation method specific requirements shall not introduce an implementation method interoperability problem.
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-22
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE:3.7
CLASSIFICATION:
DESCRIPTION:
A guideline for additional annexes should be given, e.g. for ARM EXPRESS listing.
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-23
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE:3.7, page 17
CLASSIFICATION:
DESCRIPTION:
The need, the requirement and the meaning for the Protocol Implementation Conformance Statement (PICS) proforma is not clear. Clarification is needed.
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-24
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE:4, page 24
CLASSIFICATION:
DESCRIPTION:
The qualifcation process description lacks the possibility for self qualification within the AP project.
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-25
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 4.1, page 29

CLASSIFICATION:
DESCRIPTION:
The processes described in the AAM should definitely cover future requirements and should not be restricted to "as is" processes.
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-33
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 4.3, page 33
CLASSIFICATION:
DESCRIPTION:
The second sentence in the first paragraph should be changed to "... shall ensure that each requirement identified as in scope in the AAM is experssed in the ARM."
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-34
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 4.3.1, page 34
CLASSIFICATION:
DESCRIPTION:
The rationale for the recommendation for not using nested or hierarchical structures of UoFs should be given.
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-35
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 4.3.1, page 34
CLASSIFICATION:
DESCRIPTION:
The rationale for requiring definitions of information requirements, application objects, and application assertions in prose is not clear. Is the intended meaning of this sentence:
"This clause shall define in prose the information requirements, ..."?
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-36
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 4.3.1, page 34
CLASSIFICATION:
DESCRIPTION:
The sentence "UoFs, application objects and application assertions shall have unique names, i.e. no application elements shall share the same name" needs clarification: Which is the scope of uniqueness?
PROPOSED SOLUTION:
Define explicitely the elements and the context where the elements have to be unique.

ISSUE NUMBER: GER N433-37
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 4.3.1.1, page 35
CLASSIFICATION:
DESCRIPTION:
The sentences of items 2 and 3 of the bullet list are difficult to understand. Furthermore the possibility of several recursions through select types are not reflected (up to now only two levels are described). Refer to issue GER N432-14!
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-38
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 4.3.1
CLASSIFICATION:
DESCRIPTION:
It is not clear where constraints - other than referential integrity and cardinality restriction constraints - can be documented. An example for such a constraint is: The sum of the salaries of all employees of a department may not exceed the budget of the department.
PROPOSED SOLUTION:

ISSUE NUMBER: GER N433-39
AUTHOR: Besekau, Endres, Groepper, Dr. Kaefer, Wenzel
CLAUSE: 4.6.1, page 51
CLASSIFICATION:
DESCRIPTION:
The requirement for using IDEF0 for describing usage scenarios and usage test shall be dropped. The methods for specifying the test and scenarios should be selected by the validation teams.
PROPOSED SOLUTION:

UNITED STATES

ISSUE NUMBER: USA-APGUIDE-1
AUTHOR: P. R. Kennicott
CLAUSE: General
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
Much of the material in N433 duplicates material properly in the Supplementary Directives.
PROPOSED SOLUTION:
This material should be removed, with a check against the Supplementary Directives to assure that it is indeed there.
RESOLUTION:
There should be a joint issues workshop for all the methods documents to resolve duplications and inconsistencies.

ISSUE NUMBER: USA-APGUIDE-2
AUTHOR: P. R. Kennicott, Len Slovensky
CLAUSE: General
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The document should be re-cast as a standard in accordance with the Supplementary Directives.
PROPOSED SOLUTION:
RESOLUTION:
The document should not become a standard (i.e., get a 10303 part number). Furthermore, it should not be written to the Supplementary Directives. However, it should be formatted in accordance with ISO Directive 3.

ISSUE NUMBER: USA-APGUIDE-3
AUTHOR: P. R. Kennicott
CLAUSE: General
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
The authors often use excess white space to right-justify a line. This is sloppy and detracts from the quality of the document. An example is in clause 1 (page 1) in the paragraph starting "A fundamental concept of STEP...", the last full line.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-4
AUTHOR: P. R. Kennicott
CLAUSE: 1 page 1; paragraph starting "ISO 10303 provides a neutral mechanism..."
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
This paragraph corresponds closely in meaning to the first paragraph of the standard Introduction, yet an important change has been made: Archiving is confined to product databases. I cannot understand the reason for this. STEP was intended for archiving product data-sets, of which one form is a database. Such a change imposes the database implementation on the architecture of STEP and violates that concept that STEP separates information requirements from implementation methods.
PROPOSED SOLUTION:
RESOLUTION:
Change the introduction to use the standard wording.

ISSUE NUMBER: USA-APGUIDE-5
AUTHOR: P. R. Kennicott
CLAUSE: 1 page 1; footnote 1
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Add a comma before the conjunction in the series.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-6
AUTHOR: P. R. Kennicott

CLAUSE: 1.1 page 2; paragraph starting "An additional objective of..."
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
Informative references should be supplied to OSI and IGES. In addition, a reference could be made to Liewald and Kennicott in the first issue of Computer Graphics and Applications, where application protocols were first proposed with respect to product definition.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-7
AUTHOR: P. R. Kennicott
CLAUSE: 1.2 page 2
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
References here should be to standard documents. In particular, Danner's conceptual model architecture should appear as a standard reference. (Can be deferred to Part 13)
PROPOSED SOLUTION:
RESOLUTION:
Add Danner's conceptual model architecture to the document.

ISSUE NUMBER: USA-APGUIDE-8
AUTHOR: P. R. Kennicott
CLAUSE: 1.2.1 page 2; paragraph starting "Application protocols employ..."
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Change "...three types of models..." to "...three types of information models...".
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-9
AUTHOR: P. R. Kennicott
CLAUSE: 1.2.1 page 2; paragraph starting "Application protocols employ..."
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The term 'application context' is not defined. This is a good place to elaborate this concept. It is important, and it is not well understood outside the STEP community.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-10
AUTHOR: P. R. Kennicott
CLAUSE: 1.2.1 page 2; bullet on AAM
CLASSIFICATION: MINOR, TECHNICAL
DESCRIPTION:
IDEF0 is more properly an activity modeling language, not a process modeling language.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-11

AUTHOR: P. R. Kennicott
CLAUSE: 1.2.1 page 2; bullet on ARM
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:

This information is the source of much of the problems with STEP. The contents of Clause 4 constitute an information model, but one which is poorly specified, except when EXPRESS is used properly. Clause 4 should be described only in EXPRESS with sufficient constraints to accurately represent the required information. IDEF1 and NIAM cannot define such constraints. The mapping table should be replaced with a well defined mapping language. (The upcoming new work item for EXPRESS x would be a good candidate.)
PROPOSED SOLUTION:
Can be deferred to Part 13.
RESOLUTION:
This is a "philosophical" issue which will require further discussion and consensus within the STEP community. The document should not be held up for resolution of this issue.

ISSUE NUMBER: USA-APGUIDE-12
AUTHOR: P. R. Kennicott
CLAUSE: 1.2.1 page 2; bullet on ARM
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The term 'ARM' is applied to annex F, which is actually a representation of the Clause 4 information model. The term 'ARM' should only refer to Clause 4.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-13
AUTHOR: P. R. Kennicott
CLAUSE: 1.2.1 page 3; bullet on AIM
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Remove the space before the comma.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-14
AUTHOR: P. R. Kennicott
CLAUSE: 1.3 page 3
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
This subclause is labeled 'principles,' yet the text reads as a series of requirements (i.e., use of the word 'shall'). I think they are principles and should be recorded as such. The most important principle is that, if the requirements stated elsewhere in the document are followed, the items here are facts. Actual requirements (such as the normative references) should be moved elsewhere. (Can be deferred to Part 13)
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-15
AUTHOR: P. R. Kennicott
CLAUSE: 1.3 page 3; bullet 1, bullet starting "specifying subtypes..."
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Add a comma before the conjunction in the series.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-16
AUTHOR: P. R. Kennicott
CLAUSE: 3 page 11
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
This material properly appears in the Supplementary Directives. It should be removed or made informative.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-17
AUTHOR: P. R. Kennicott
CLAUSE: 3.7 page 16; bullet A
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
The expanded AIM EXPRESS should be informative. It is derived from the short form, which should be the normative expression of the AIM. The idea of two, possibly conflicting expressions of the standard is ridiculous.
PROPOSED SOLUTION:
RESOLUTION:
This is a "philosophical" issue which will require further discussion and consensus within the STEP community. The document should not be held up for resolution of this issue.

ISSUE NUMBER: USA-APGUIDE-18
AUTHOR: P. R. Kennicott
CLAUSE: 4 page 19
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
This clause needs the attention of a qualified technical writer. There are two and one half pages of what is apparently intended as introduction, four and one half pages of "summary" (the numbered
bullets), and 24 pages of text. By the time the reader finishes the clause, he has read much of the material three times. This is not good pedagogy. (Can be deferred to Part 13)
PROPOSED SOLUTION:
RESOLUTION:
The identified change should be made. However, the current version of the document is adequate. This is a group 2 issue. Approval of the document should not be held up pending this change.

ISSUE NUMBER: USA-APGUIDE-19

AUTHOR: P. R. Kennicott
CLAUSE: 4 page 19
CLASSIFICATION: MINOR, TECHNICAL
DESCRIPTION:
The timing in the development process needs attention. With the new ISO schedules, it would be well to require that the ARM be completed during the preliminary phase, leaving the AIM, ATS, and the remainder of the documentation for the actual project.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-20
AUTHOR: P. R. Kennicott
CLAUSE: 4 page 19
CLASSIFICATION: MINOR, TECHNICAL
DESCRIPTION:
The role of the AP planning project is ambiguous. In some places it appears as a requirement, while in others it is a recommended option.
PROPOSED SOLUTION: This should be clarified, and, in the case where it is omitted, something should be said about providing the functionality of the planning project.
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-21
AUTHOR: P. R. Kennicott
CLAUSE: 4 page 19; paragraph starting "An AP planning project..."
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
The term "industry AP roadmaps" is used. This is jargon and has no place in this document. If it is important to capture this concept (I doubt the concept has meaning.), develop a proper English term for it. Road map refers to a graph of locations with edges representing roads.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-22
AUTHOR: P. R. Kennicott
CLAUSE: 4.1 page 28
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
There should be a closer connection between the material in the Scope (clause 1), the AAM, and the ARM. If the AAM is truly a scoping tool, it should be possible to define exactly how items appear in the "in-scope" or "out-of-scope" statements. Ideally, this should be possible for a reader who is not in the STEP community. Ideally, each edge of the IDEF0 graph of the AAM should correspond to some unit of functionality in the ARM. (Can be deferred to Part 13.)
PROPOSED SOLUTION:
RESOLUTION:
For the short term, editorial changes should be made to the AP Guidelines. Further work will need to be done in the future. This should not be deferred for Part 13 until Part 13 becomes more stable.

ISSUE NUMBER: USA-APGUIDE-23

AUTHOR: P. R. Kennicott
CLAUSE: A.1 page A-1
CLASSIFICATION: MINOR, TECHNICAL
DESCRIPTION:
It is unclear how the required resource schemas can be furnished with the planning project proposal; they are not available until the AIM is complete. I believe what is intended is that preliminary estimates of resource schema requirements should be included in the proposal. If this is the case, it should be so stated.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-24
AUTHOR: Len Slovensky
CLAUSE: 4.1, page 28
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
There needs to be a decision made on the requirements of the AAM diagrams. Should they follow the FIPS (publication 183) or can they be allowed to deviate from the FIPS standard (modified).
PROPOSED SOLUTION:
Determine if the FIPS document must be followed to the letter of the law or if a modified FIPS form may be used.
PROPOSED SOLUTION:
RESOLUTION:
The document should clearly state what level of conformance to the FIPS is required.

ISSUE NUMBER: USA-APGUIDE-25
AUTHOR: Len Slovensky
CLAUSE: 4.5, page 47
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
I have reviewed several AP, all of which have a number of conformance classes. But there is no written guideline for what Clause 6 of an AP shall contain, except for a small note on this page. What should be contained in a conformance class table? Is there any other information that shall be specified in Clause 6 that needs to be identified in this section?
PROPOSED SOLUTION:
The note used to define tables in the clause 6 of an AP should not be a note but part of the clause 4.5 text. It should also give more detail on the contents and structure of this table.
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-26
AUTHOR: Len Slovensky
CLAUSE: 4.4.6, page 46
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
There is one paragraph of high level information here about a usage guide. I have reviewed many APs and have not seen any with usage guide information the exception being AP203 which has
sample part 21 files. I question if part 21 files are consider a usage guide. If there is going to be

a usage guide in an AP there needs to be more information or even examples for AP owners to have available.
PROPOSED SOLUTION:
Add additional information about what is in the usage guide or remove the concept of usage guides.
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-27
AUTHOR: Diane Craig
CLAUSE: 4.3.1.1, page 35
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
This clause is inconsistent with clause 5.5.3.1 of the Supplementary Directives. All EXPRESS attributes are defined in clause 4.2 of the AP document, not just those that are to a base type or defined type. Those attributes whose data type is an entity are also defined as a relationship in clause 4.3 of the AP document.
PROPOSED SOLUTION:
RESOLUTION:
Change this document to reflect current practice. However, the information should be retained here, and this document should be the "controlling" document.

ISSUE NUMBER: USA-APGUIDE-28
AUTHOR: Diane Craig
CLAUSE: Page 43
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
PROPOSED SOLUTION:
In the last paragraph on page 43 remove the word "by" following "mapping table."
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-29
AUTHOR: Thomas R. Thurman
CLAUSE:
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
The subject guidelines do not provide details of the methodology used to derive requirements for rules in the aim from the constructs in the ARM. In particular, the existence dependency documented in EXPRESS relations is not identified as a size driver in the AIM.
PROPOSED SOLUTION:
Add the required information.
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-30
AUTHOR: Thomas R. Thurman
CLAUSE:
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
There is a lack of information upon which to base project schedule estimates, although a sample schedule is provided.

PROPOSED SOLUTION:
RESOLUTION:
The identified information should be added. However, this is a group 2 issue. Approval of the document should not be held up pending this change.

ISSUE NUMBER: USA-APGUIDE-31
AUTHOR: Thomas R. Thurman
CLAUSE:
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
For a complex AP, three years is not appropriate, and the guidelines do not support splitting a complex AP into multiple APs without re-balloting. The project team should be allowed to address technical packaging issues such as this without having to be-ballot the work.
PROPOSED SOLUTION:
RESOLUTION:
This is a "philosophical" issue which will require further discussion and consensus within the STEP community. The document should not be held up for resolution of this issue.

ISSUE NUMBER: USA-APGUIDE-32
AUTHOR: Thomas R. Thurman
CLAUSE:
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
The guidelines permit multiple languages to be used in the ARM model. EXPRESS should be the standard ARM modeling language, and technical issues associated with its use in the ARM should be worked out.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-33
AUTHOR: BOEING
CLAUSE: Generic, throughout document
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Major clauses 1, 2, 3,etc. have a line after the clause title and before the text,
PROPOSED SOLUTION:
Delete the line per 1.2.4.1, N432 directive
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-34
AUTHOR: BOEING
CLAUSE: Generic, throughout document
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Major clauses 1, 2, 3,etc. and all subclause headings are not size 14 pt text
PROPOSED SOLUTION:
Change text size to 14 pt per 1.2.2, N432 directive
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-35
AUTHOR: BOEING
CLAUSE: 1.2, p. 3
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Last paragraph, space before comma after word "constrained".
PROPOSED SOLUTION:
Delete space.
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-36
AUTHOR: BOEING
CLAUSE: 1.3, p. 3
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Format of list is not per 1.2.6, N432 directive
PROPOSED SOLUTION:
Replace period with a colon after "process" in first line. Change 1), 2), 3) etc. to dashes. Change dashes to a), b), c) etc.
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-37
AUTHOR: BOEING
CLAUSE: 3.5, p. 14
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Heading appears by itself at bottom of page.
PROPOSED SOLUTION:
Force the heading to the top of the next page per 1.2.4.1, N432 directive.
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-38
AUTHOR: BOEING
CLAUSE: 3.7, p. 16
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Footnotes 7 and 8 are deleted at bottom page, but referenced in text
PROPOSED SOLUTION:
Delete references to footnotes 7 and 8 in text.
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-39
AUTHOR: BOEING
CLAUSE: 3.7H, p. 17
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Heading appears by itself at bottom of page
PROPOSED SOLUTION:
Force the heading to the top of the next page per 1.2.4.1, N432 directive.

RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-40
AUTHOR: BOEING
CLAUSE: Page 5 item 8 bullet 3, Testability
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
There is no mention of when tests are to be defined. We are approaching 2 years after the first application protocols were declared international standards and we have no abstract test suites. Application developers need something to use in testing the software they develop. Today several
vendors sell products they claim to be compliant but there is no method for independent determination of the correctness of the claim.
PROPOSED SOLUTION:
What does conformance to ISO 10303 mean?
Without a conformance test it is not possible to determine if an application conforms to the standard.

ISO 10303-31:1994(E) "Conformance testing methodology and framework: general concepts" has a section titled "5.1 The meaning of conformance in ISO 10303". I quote from that section.

Conformance of an implementation shall be determined by using an executable test suite generated from the applicable standard abstract test suite. Each abstract test suite is documented in the ISO 10303-1200 series of parts and is referenced normatively by the corresponding application protocol.

Thus without an abstract test suite a normative portion of an application protocol is missing and there is no way to determine conformance.

ISO 10303-1:1994(E) "Overview and fundamental principles" references the following 6 terms as defined in ISO 10303-31:
Abstract test case(ATC): a specification, encapsulating at least one test purpose, that provides the formal basis from which executable test cases are derived. It is independent of both the implementation and the values.
abstract test method: the description of how an implementation is to be tested, given at the appropriate level of abstraction to make the description independent of any particular implementation of testing tools or procedures, but with sufficient detail to enable these tools and procedures to be produced.
conformance testing: the testing of a candidate product for the existence of specific characteristics required by a standard in order to determine the extent to which that product is a conforming implementation test purpose: a precise description of an objective which an abstract text
case is designed to achieve.
(test) verdict: a statement of "pass", "fail" or "inconclusive" concerning conformance of an implementation under test(IUT) with respect to an executable test case and the abstract test case from which it was derived.
verdict criteria: information defined within and abstract test case which enables the testing laboratory to assign a verdict.

ISO 10303-1 defines additional terms relating to conformance as follows:
conformance class: a subset of an application protocol for which conformance may be claimed.
conformance requirement: a precise, text definition of a characteristic required to be present in a conforming implementation.
PICS proforma: a standardized document in the form of a questionnaire, which, when completed for a particular implementation, becomes the protocol implementation conformance statement.
Protocol implementation conformance statement(PICS): a statement of which capabilities and options are supported within an implementation of a given standard. this statement is produced by completing a PICS proforma.
unit of functionality: a collection of application objects and their relationships that defines one or more concepts within the application context such that removal of any component would render the concepts incomplete or ambiguous.

Under the heading "4.2 Fundamental principles", ISO 10303-1, among other things, states the following:
ISO 10303 provides a methodology and framework for conformance testing of implementations.
RESOLUTION:
This is not an issue for the AP Guidelines. It is an issue for the ATS Guidelines, and should be raised as such.

ISSUE NUMBER: USA-APGUIDE-41
AUTHOR: BOEING
CLAUSE: 1.2.1 Application protocol models, page 2
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
ARM description needs reinforcement.
PROPOSED SOLUTION:
Change the sentence to read "A model that defines terminology within the application context and specifies conceptual structures and constraints used to _".
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-42
AUTHOR: BOEING
CLAUSE: CLAUSE: 2.1 Definitions, page 6
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
The terminology "candidate product" may mean a physical product each application discipline is manufacturing or some software. In the context of this clause, it may mean product data.
PROPOSED SOLUTION:
Change "candidate product" to "candidate product data".
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-43
AUTHOR: BOEING
CLAUSE: 2.2 Abbreviations, page 9
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Isn't OSI representing Open Systems Interconnect rather than Interconnection?
PROPOSED SOLUTION:

Change "Interconnection" to "Interconnect".
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-44
AUTHOR: BOEING
CLAUSE: Generic
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Format of document does not match callout of format in N432 PROPOSED SOLUTION:
Reformat document to match N432 directions; font size, paragraph formatting, heading/subheading formatting, list formatting
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-45
AUTHOR: Boeing
CLAUSE: Generic
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Methods documents, while not mandatory for Parts and APs, should at the very least put forth an example and follow the instructions put forth in the methods documents for formatting and text.
PROPOSED SOLUTION:
Follow the methods documents for formatting and text arrangements as an example of how the Parts and APs should be written.
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-46
AUTHOR: David Price
CLAUSE: 4.3
CLASSIFICATION: MINOR, TECHNICAL
DESCRIPTION:
The development of an ARM should require considerations of other APs with which "interoperability" or sharing of data is required. These areas of interoperability should be identified and documented. The AP Integration project needs some criteria and a judgment for the level of interoperability to be supported by the AP.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-47
AUTHOR: David Price
CLAUSE: 4.4
CLASSIFICATION: MINOR, TECHNICAL
DESCRIPTION:
The development of an AIM should require considerations of other APs with which "interoperability" or sharing of data is required. A consistent mapping of like ARM constructs into the AIM must be guaranteed and some criteria and a judgment for the level of interoperability actually supported by the AIM needs to be applied.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-48
AUTHOR: David Price
CLAUSE: 4.4.2
CLASSIFICATION:
DESCRIPTION:
The development of an AIM should require that a rule written using EXPRESS appear in all cases where an attribute value which is a string is specified in the mapping table.
PROPOSED SOLUTION:
Change the AP Guidelines and AIM development guidelines documents to require these values to appear in rules in the AP. Integration signoff or Qualification's checklist should include verifying that this is done in all APs.
RESOLUTION:
This issue is rejected by the review team. The team does not believe that it is feasible to do this with EXPRESS as it is now.

ISSUE NUMBER: USA-APGUIDE-49
AUTHOR: David Price
CLAUSE: 4.3
CLASSIFICATION: MINOR, TECHNICAL
DESCRIPTION:
Cross-AP standards for various string valued attributes is needed to allow the reuse of data from one AP in an implementation of another AP. Examples of such values are all management resource role names, context names and life cycle stages, and application context application values.
PROPOSED SOLUTION:
Develop an SC4 standing document standardizing these names from which all APs are required to choose values. In the case where the AP needs to add values then a balloted update to the standing document would need go out with the CD ballot of the AP.
RESOLUTION:
This is not an issue for the AP Guidelines. It should be raised as an issue for the AIM Guidelines and/or Mapping Table Guidelines documents.

ISSUE NUMBER: USA-APGUIDE-50
AUTHOR: Jesse Crusey
CLAUSE: 2.1
CLASSIFICATION:
DESCRIPTION:
Although the definition for usage scenarios has been added to clause 2.1 it still lacks the specifics that AP developers need for developing usage scenarios for their APs. Some will placed examples or greater detail will help. Very few APs have included usage scenarios in their Validation reports. There must be will defined requirements for the development of usage scenarios.
PROPOSED SOLUTION:
Give details or drop the requirement.
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-51
AUTHOR: Jesse Crusey
CLAUSE:

CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
This document needs an INDEX.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-52
AUTHOR: Jesse Crusey
CLAUSE:
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Most APs are now developed using EXPRESS-G for the ARM. however, EXPRESS-G is NOT a valid modeling form as per this guideline.
PROPOSED SOLUTION:
Add EXPRESS-G to the list of valid modeling forms.
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-53
AUTHOR: Jesse Crusey
CLAUSE:
CLASSIFICATION: MINOR, TECHNICAL
DESCRIPTION:
We should provide direction where to put the EXPRESS ARM, i.e. which Annex.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-54
AUTHOR: Jesse Crusey
CLAUSE:
CLASSIFICATION: MINOR, TECHNICAL
DESCRIPTION:
We should do away with a formal modeling language for the ARM and use a simple entity-relationship chart.
PROPOSED SOLUTION:
RESOLUTION:
This is a "philosophical" issue which will require further discussion and consensus within the STEP community. The document should not be held up for resolution of this issue.

ISSUE NUMBER: USA-APGUIDE-55
AUTHOR: Jesse Crusey
CLAUSE:
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
Direction and requirements must be stated about the Application Domains to avoid the very generic forms of several APs that are currently being developed. Guidance must be given as to when an AP is in fact an AP and NOT an Application Resource Model. Currently there is no guidance on when or requirements for an Application Resource Model to be developed.
PROPOSED SOLUTION:
RESOLUTION:

Define an appropriate level of detail for ARM Application Objects.

ISSUE NUMBER: USA-APGUIDE-56
AUTHOR: Gerald Radack
CLAUSE:
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
Currently, ARMs may be developed in EXPRESS, NIAM, or IDEF1X. The requirement to support all three modeling languages hinders development of tools for automating AP development and documentation tasks.
PROPOSED SOLUTION:
Change to say that all new APs must be developed with EXPRESS ARMs.
RESOLUTION:
This is a "philosophical" issue which will require further discussion and consensus within the STEP community. The document should not be held up for resolution of this issue.

ISSUE NUMBER: USA-APGUIDE-57
AUTHOR: Gerald Radack, Len Slovensky, Diane Craig, Thomas Thurman
CLAUSE:
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
There should be a single guidelines document covering the entire lifecycle of Application Protocol development.
PROPOSED SOLUTION:
Incorporate the AIM Guidelines and Mapping Table Guidelines documents into the AP Guidelines.
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-58
AUTHOR: Frank Demasek
CLAUSE: 1 page 5
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
At what point does the ISO technical community get to view and comment on the scope of the new AP. This should happen very early in the AP development process. In the past, the first circulation of the AP was at CD or CDC after considerable effort had been expended. Changes of scope at that stage were virtually impossible to make happen, too much time and effort had already been expended.
PROPOSED SOLUTION:
Have an early circulation and review of new AP and their scope for the technical community.
RESOLUTION:
This is a "philosophical" issue which will require further discussion and consensus within the STEP community. The document should not be held up for resolution of this issue.

ISSUE NUMBER: USA-APGUIDE-59
AUTHOR: Frank Demasek
CLAUSE: 1 page 5
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:

At what level does the sharing or reuse of interpreted constructs occur? Does it make much sense at the application object level, or is the UoF level where the sharing should take place?
PROPOSED SOLUTION:
Sharing should only occur at the UoF level. Sharing just a few random application object constructs and not the other information in the UoF may create problems.
RESOLUTION:
This is a "philosophical" issue which will require further discussion and consensus within the STEP community. The document should not be held up for resolution of this issue.

ISSUE NUMBER: USA-APGUIDE-60
AUTHOR: Frank Demasek
CLAUSE: 2 page 6
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
ARM definition states that the application reference model employs application-specific terminology an rules familiar to experts in the application. This is what should happen, but most application experts do not relate to the terminology used in the ARM, because it is often the same or similar terminology to the integrated resource definition. Application experts think in terms of parts or components, not items.
PROPOSED SOLUTION:
Have model in application specific terminology
RESOLUTION:
Make a more explicit statement about how to define ARM objects, attributes and constraints.

ISSUE NUMBER: USA-APGUIDE-61
AUTHOR: Frank Demasek
CLAUSE: 3.7 G page 17 , 4.3 page 32
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
The ARM should be a graphical model in EXPRESS-G only. Why should AP reviewers learn IDEF1X or NIAM to evaluate and understand the ARM? The AIM must be modeled in EXPRESS-G so why shouldn't the ARM also be in the same modeling language.
PROPOSED SOLUTION:
Allow for only an EXPRESS-G ARM model. Grandfather APs in the development pipeline, and enforce it for all new APs.
RESOLUTION:
This is a "philosophical" issue which will require further discussion and consensus within the STEP community. The document should not be held up for resolution of this issue.

ISSUE NUMBER: USA-APGUIDE-62
AUTHOR: Frank Demasek
CLAUSE: 4 page 19 bottom 4 page 29
CLASSIFICATION: MINOR, Technical
Description: Product data exchange scenarios
PROPOSED SOLUTION:
The high-value product data exchange scenarios or usage scenarios should be added to Addendum F (AAM) of AP document.
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-63
AUTHOR: Frank Demasek
CLAUSE: 4 page 19
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
The second paragraph, the third sentence " The Preliminary Stage..." should be moved up before the previous sentence
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-64
AUTHOR: Frank Demasek
CLAUSE: 4 Figure 4-3
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Application Activity Model is used as an input an output form box A412
PROPOSED SOLUTION:
Is the output "Validated AAM"?
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-65
AUTHOR: Frank Demasek
CLAUSE: 4 page 19
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Last sentence should read "product data".
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-66
AUTHOR: Frank Demasek
CLAUSE: 4 Figures 4-1 through 4-3
CLASSIFICATION: MAJOR, Technical
DESCRIPTION:
No definition of processes, inputs, outputs, controls, or mechanisms for diagrams.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-67
AUTHOR: Frank Demasek
CLAUSE: 4 page 25 paragraphs 4 and 6
CLASSIFICATION: MINOR, EDITORIAL
Description: Is "development plan" of 4 the same as the "schedule for completing the AP" in 6?
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-68
AUTHOR: Frank Demasek
CLAUSE: 4 page 25 paragraph 7

CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Add "New Work Item" before the first reference to proposal. Remove the second sentence.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-69
AUTHOR: Frank Demasek
CLAUSE: 4 page 25 paragraph 8
CLASSIFICATION: MINOR, EDITORIAL
Description: Add "New Work Item" before the first reference to proposal. Move the second sentence to the end of the paragraph.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-70
AUTHOR: Frank Demasek
CLAUSE: 4 page 25 paragraph 8
CLASSIFICATION: MINOR, EDITORIAL
Description: The Initial Working Draft AP and the New Work Item documentation should be available to the technical community upon its approval by SC4 members. Notification to the STEP technical community should be made and the documents made available on SOLIS or some other easily accessible electronic media. This may help to avoid problems with scope of an AP, because this information will be available before the Group 1 document is available. It would be easier to modify or adjust scope before significant development effort had been invested.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-71
AUTHOR: Frank Demasek
CLAUSE: 4 page 25 paragraph 9
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
What is "validation testing"?
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-72
AUTHOR: Frank Demasek
CLAUSE: 4 page 26 paragraph 10
CLASSIFICATION: MINOR, Technical
DESCRIPTION:
List of industry reviewers and companies interested should be made a part of the AP validation report.
PROPOSED SOLUTION:
ISSUE NUMBER: USA-APGUIDE-73
AUTHOR: Frank Demasek
CLAUSE: 4 page 28 paragraph 21

CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
"Project Draft status" be changed to "Committee Draft status."
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-74
AUTHOR: Frank Demasek
CLAUSE: 4 page 28 paragraph 23+
CLASSIFICATION: MAJOR, Technical
DESCRIPTION:
The AP development process does not stop at paragraph 22. There is ballot process through till IS. There are times when the ATS must be reviewed before the AP can be elevated to the next ballot cycle.
PROPOSED SOLUTION:
Add more detail
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-75
AUTHOR: Frank Demasek
CLAUSE: 4 page 28
CLASSIFICATION: MAJOR, Technical
DESCRIPTION:
Early Implementations of proposed AP
PROPOSED SOLUTION:
Before the AP gets moved to DIS at least one implementation has to have been completed and the implementation reviewed with the AP development team.
RESOLUTION:
This is a "philosophical" issue which will require further discussion and consensus within the STEP community. The document should not be held up for resolution of this issue.

ISSUE NUMBER: USA-APGUIDE-76
AUTHOR: Frank Demasek
CLAUSE: 4 page 29
CLASSIFICATION: MINOR, TECHNICAL
DESCRIPTION:
Both AAM for "as is" process and AAM for "to be" process needs to be included in AP document
PROPOSED SOLUTION:
RESOLUTION:
This is a "philosophical" issue which will require further discussion and consensus within the STEP community. The document should not be held up for resolution of this issue.

ISSUE NUMBER: USA-APGUIDE-77
AUTHOR: Frank Demasek
CLAUSE: 4 page 29
CLASSIFICATION: MINOR, TECHNICAL
DESCRIPTION:
When does the review with the application experts have to occur? before AP project proposal

has been approved by SC4? Before Group 1 reviews? After Group 1 reviews?
PROPOSED SOLUTION:
Shortly after AP project proposal has been approved, before Group 1 reviews.
RESOLUTION:
The review team feels that the document does specify when the review has to occur. However, this should be made clearer in the document.

ISSUE NUMBER: USA-APGUIDE-78
AUTHOR: Frank Demasek
CLAUSE: 4 page 29
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Does the planning model have to follow any methodology? EXPRESS-G?
PROPOSED SOLUTION:
RESOLUTION:
More specifics on what is a planning model and how it is to be represented need to be included.

ISSUE NUMBER: USA-APGUIDE-79
AUTHOR: Frank Demasek
CLAUSE: 4.3 page 32
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Title to section 4.3 should be " Development and review of the information requirements and the application reference model".
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-80
AUTHOR: Frank Demasek
CLAUSE: 4.6 page 50 activity 5
CLASSIFICATION: MAJOR, Technical
DESCRIPTION:
An AP which shares an AIC with other implemented AP should also demonstrate the data sharing between the AIC information and both APs. Prototype implementation should validate some of the usage scenarios.
PROPOSED SOLUTION:
RESOLUTION:
This is a "philosophical" issue which will require further discussion and consensus within the STEP community. The document should not be held up for resolution of this issue.

ISSUE NUMBER: USA-APGUIDE-81
AUTHOR: Frank Demasek
CLAUSE: 4.9 page 53
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Group 1 and Group 2 are qualification terms, but they are not mentioned in this section of the document.
PROPOSED SOLUTION:

RESOLUTION:
Group 1 and Group 2 are not just qualification terms. The definitions should be clarified.

ISSUE NUMBER: USA-APGUIDE-82
AUTHOR: Frank Demasek
CLAUSE: 4
CLASSIFICATION: MAJOR, Technical
DESCRIPTION:
Many things are happening at different times during the AP development process, AP project plan, validation, qualification, development activities. A timing or sequence chart showing the various activities, and portions of the document due at different stages would be useful to the first time AP developer. It is difficult to integrate all these things together.
PROPOSED SOLUTION:
RESOLUTION:

ISSUE NUMBER: USA-APGUIDE-83
AUTHOR: Frank Demasek
CLAUSE: 5 page 55
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
Add "(second CD ballot)" at the end of line b and "(DIS)" at the end of line c.
PROPOSED SOLUTION:
RESOLUTION:
All the methods documents need to be harmonized with the ISO Directives, Part 1. In those documents, they refer to Stage 1 through 7 of the development process.

ISSUE NUMBER: USA-APGUIDE-84
AUTHOR: Frank Demasek
CLAUSE: 5 page 55
CLASSIFICATION: MINOR, TECHNICAL
DESCRIPTION:
There is difficulty in obtaining copies of the STEP documents that are out for review either in hard copy or electronic form. Although there are copies of documents on SOLIS they sometimes do not have all the illustrations, or not up to date. This makes review of the document difficult.
PROPOSED SOLUTION:
RESOLUTION:
This is a "philosophical" issue which will require further discussion and consensus within the STEP community. The document should not be held up for resolution of this issue.

ISSUE NUMBER: USA-APGUIDE-85
AUTHOR: Frank Demasek
CLAUSE: 5 page 56
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:

Are technical comments still resolve on the DIS ballot? Or are they informational?
PROPOSED SOLUTION:
RESOLUTION:
According to ISO directives, technical comments are not to be resolved at the DIS level. This should be stated explicitly in the AP Guidelines. All the methods documents need to be harmonized with the ISO Directives.

ISSUE NUMBER: USA-APGUIDE-86
AUTHOR: Frank Demasek
CLAUSE: 5 page 56
CLASSIFICATION: MINOR, TECHNICAL
DESCRIPTION:
Nothing is said about the synchronization between the AP document and its ATS document. Do they have to be balloted together? or within some time frame?
PROPOSED SOLUTION:
RESOLUTION:
The AP Guidelines should give the relationship between the timeline of the AP and the associated ATS.

ISSUE NUMBER: USA-APGUIDE-87
AUTHOR: Frank Demasek
CLAUSE: 5 page 56
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
AP should not go out for DIS ballot until at least one implementation has been completed and analyzed.
PROPOSED SOLUTION:
RESOLUTION:
This is a "philosophical" issue which will require further discussion and consensus within the STEP community. The document should not be held up for resolution of this issue.

ISSUE NUMER: USA-APGUIDE-88
AUTHOR: Jesse Crusey
CLAUSE:
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
The document does not spell out the contents of a validation report, or what type
testing is required to do validation.
PROPOSED SOLUTION:
Add the information.
RESOLUTION: